

REMARKS

Claims 1-14 are pending. By this Response, claim 1 is amended. Reconsideration and allowance based on the above-amendment and following remarks are respectfully requested.

The Office Action rejects claim 1 under 35 U.S.C. §103(a) as being unpatentable over Kojima, et al. (U.S. Patent No. 6,313,816) in view of Fukuda, et al. (U.S. Patent No. 5,452,019); claims 2-4 under 35 U.S.C. §103(a) as being unpatentable over Kojima, et al. in view of Fukuda, et al. and Greene, et al. (U.S. Patent No. 6,243,059); and claim 5 under 35 U.S.C. §103(a) as being unpatentable over Kojima in view of Fukuda and Yui (U.S. Patent No. 6,493,008). These rejections are respectfully traversed.

The Office Action alleges that Kojima discloses the claimed chromaticity portion including a chromaticity conversion parameter. The Office Action alleges that Fukuda discloses the claimed memory portion and that the combination of Kojima and Fukuda provide applicants' claimed invention as recited in claim 1. Applicants respectfully disagree.

Kojima measures the characteristics of an RGB trio. In other words, Kojima measures the red, green and blue characteristics of the pixel. The chromaticity correction coefficient is obtained for each pixel based on the measured result pertaining to the RGB trio. During an arithmetic operation the RGB data of a pixel is corrected based on the correction coefficient. The system of Kojima does not obtain display characteristics for each light emitting

portion of each display unit, as recited in claim 1. Further, Kojima does not obtain a chromaticity conversion parameter on the basis of each of the stored display characteristics information from said plurality of display units, where the display characteristics information is continuously stored in the memory portion even after the chromaticity conversion parameter is obtained, as recited in claim 1.

The chromaticity correction coefficient of Kojima is based upon the characteristics of a single pixel element and not upon all of the obtained characteristics for every pixel. Thus, Kojima cannot provide a uniform chromaticity conversion parameter in a manner accomplished by applicants' claimed invention.

Further, Fukuda provides corrected image data by measuring data from four surrounding pixels of a pixel to be corrected. This correction data is applied to the pixel that is to be corrected. This is done individually for each pixel. See column 12, lines 12-30.

Fukuda fails to teach or suggest a chromaticity conversion parameter obtained on the basis of each of said stored display characteristics information from said plurality of display units, said display characteristics information is continuously stored in said memory portion even after said chromaticity conversion parameter is obtained and a chromaticity converter portion receiving image data as a chromaticity conversion parameter for converting

characteristics of said image data on the basis of said chromaticity conversion parameter, as recited in claim 1.

The present invention continuously stores the display characteristics in the memory after the chromaticity parameter is obtained. Therefore, when changing a portion of a plurality of display units which constitute a display device or when adding another display unit for enlargement of the display devise, it will become possible to carry out effective re-adjustment of chromaticity. In other words, the memory portion of the display unit continuously stores the display characteristics information so that a new chromaticity conversion parameter can be determined by reading the display unit information from the memory portion. As there is no need to re-measure a chromaticity of the display unit, re-adjustment of the chromaticity can be carried out effectively.

In contrast, Fukuda, as disclosed at column 10, line 64-68, stores a measurement of chromaticity, but fails to where the chromaticity is stored within the device. The measurement of the chromaticity in Fukuda is used to calculate corrective data by a corrective data writing circuit 5. See Fig. 8. However, Fukuda does not disclose or suggest that the measurement of the stored chromaticity is continuously stored even after the corrective data is calculated. Thus, it appears that the measurement of chromaticity in Fukuda is temporarily stored in a device not discussed or shown for a calculating process of the corrective data by the corrective data writing circuit 5.

Also, the present invention provides a chromaticity conversion parameter that is obtained from all character data from each light emitting portion of every display unit. In contrast, Fukuda obtains correction data from only four surrounding pixels of a corrected pixel. Thus, Fukuda's system does not provide the claimed chromaticity conversion parameter claimed by applicants'.

The combination of Kojima and Fukuda fail to teach or suggest each and every feature of claim 1 as required under 35 U.S.C. §103 rejection. As such, the combination of Kojima and Fukuda is improper. Further, Greene and Yui fail to make up for the deficiencies that occurred in Kojima and Fukuda. Accordingly, reconsideration and withdrawal of the above-noted rejections are respectfully requested.

The Office Action rejects claims 6-14 under 35 U.S.C. §103(a) as being unpatentable over Kojima in view of Greene and Aloni, et al. (U.S. Patent No. 6,219,011). This rejections is respectfully traversed.

The Office Action alleges that Kojima teaches the determination of a predetermined chromaticity range common to said plurality of display units on the basis of all said display characteristics information, as recited in claims 6 and 10. Applicants respectfully disagree.

Kojima, as discussed above, determines a chromaticity correction coefficient for each individual pixel. Kojima's system does not detect any type of data common to the display units and based upon characteristic information from each of the display units.

Further, Greene discloses a system which includes a pixel by pixel evaluation and correction of chromaticity. The system of Greene determines overlapping color capabilities for a number of adjacent pixels and adjusts the pixel color so that all pixels in that area have the same color value. This is done for each pixel. Also, for chromaticity a reference for each of the R, G, B colors are selected and each pixel is independently processed and corrected based on a reference and equations for implementing the reference. See columns 15 through 16.

Greene does not teach or suggest receiving display characteristics for each of said plurality of display units to be used to determine a chromaticity range common to the display units, as recited in claims 6 and 10. Again, Greene's system relies upon a pixel by pixel evaluation to achieve chromaticity correction.

Also, the Office Action alleges that Aloni "discloses said display control device being provided outside said plurality of display units interactively communicably therewith (Fig. 2)". It appears that the Examiner is correlating the "display unit" in claims 6 and 10 with the "projection/imaging module" of Aloni and the "display control device" recited in claims 6 and 10 with the "system computer" of Aloni. As illustrated in Fig. 2 of Aloni, the "system computer" appears to be interactively communicable with the "projection/imaging module". However, the display control device of claims 6 and 10 receive the display characteristics information from each of the display

units as well as being interactively communicable with the display units. Aloni does not teach or suggest that the “system computer” receives display characteristic information from the “projection/imaging module”. Thus, the “system computer” of Aloni does not and cannot correspond to the “display control device” recited in claims 6 and 10.

Thus, the combination of Kojima, Greene and Aloni fail to teach or suggest the claimed features for which it is alleged they teach. Moreover, both Kojima and Greene concern a correction at an individual pixel level and thus only obtain, at most, correction information in a localized geographical area surrounding the individual pixel to be corrected. Neither Kojima, Greene or Aloni teach or suggest obtaining a common chromaticity correction parameter based on characteristics information from the display units.

Furthermore, there is no motivation to combine the teachings of Kojima and Greene. Kojima teaches a unique system for obtaining corrected data which is different from Greene’s system. Both of these systems independently perform correction of pixel data, but each in a unique way. To substitute parts of one system into the other will destroy the ability of that particular system to operate as required to achieve the desired results disclosed by Kojima and Greene. One of ordinary skill would not look to the algorithms of Greene and the pixel data correction methods of Green and oppose them on Kojima’s system which already has its own pixel data collection and arithmetic operation

design for its system. Thus, one of ordinary skill would not be motivated to combine the teachings of Greene and Kojima.

Thus, the combination of Kojima, Greene and Aloni fail to satisfy the requirements under a 35 U.S.C. §103 rejection. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Conclusion

For at least these reasons, it is respectfully submitted that claims 1-14 are distinguishable over the cited patents. Favorable consideration and prompt allowance are earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Chad J. Billings (Reg. No. 48,917) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By

  
Michael R. Cammarata, #39,491

P.O. Box 747  
Falls Church, VA 22040-0747  
(703) 205-8000

MRC/CJB:cb  
2257-0172P

Attachment(s)